









# CASE STUDY

## MICROTUNNELING | SLURRY MICROTUNNELING



-  **Project Name:** Pawtucket Tunnel Project - Phase IIIA Pawtucket CSO Tunnel Facilities
-  **General Contractor Joint-Venture:** CB3A comprising CBNA and Barletta Heavy Division  
**Subcontractor:** Super Excavators, Inc.
-  **Location:** Pawtucket, RI
-  **Owner:** Narragansett Bay Commission

-  **Ground Conditions:** 8,000 psi USC rock
-  **Akkerman Equipment:** SL100P MTBM System, Mixed-Ground Disc Cutter Head, AZ100 TGS
-  **Pipe:** 96-in. ID Hobas® FRP/20-ft. lengths
-  **Total Length:** 1,065-lf.

### PROJECT OVERVIEW

The Pawtucket Tunnel Project is owned by the Narragansett Bay Commission. It is part of the Restored Waters project, awarded to CB3A Joint-Venture.

This third and final phase, the previous phases completed in 2008 and 2015, is anticipated to be in operation in 2027. Phase IIIA was delivered as a design-build project and includes a main 11,600-lf. long, 30-ft. diameter conveyance and storage tunnel, pumping station, shafts, and multiple adit tunnels. Combined, the previous and newly constructed tunnels and facilities will capture and control stormwater and send it to the Bucklin Point Wastewater Treatment Facility to clean up the Narragansett Bay and comply with the federal Clean Water Act.

SEI was subcontracted to construct a critical adit tunnel (#213) that intersects with the larger 30-ft. diameter stormwater tunnel under the Seekonk River.

### THE CHALLENGES

- MTBM retrieval from the main tunnel during concurrent construction
- Launch from a 120-ft. deep shaft
- Pass under Seekonk River with 100-ft. of water head above pipe invert
- Rock with a UCS rating of 8,000 psi was expected
- Customized retrieval and removal system to transport MTBM from main tunnel to the surface

### THE SOLUTION

SEI crews embarked on the project with a newly built custom SL100P, 100-in. diameter MTBM, with custom rock disc cutter head, using existing control containers and ancillary equipment, and Akkerman AZ100 TGS system for tunneling navigation

### OUTCOME

- Machine performed well even in unexpected harder ground conditions encountered at the project onset
- Minimal water head due to presence of competent rock
- Accurate and timely completion of 1,065-lf. adit tunnel

